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PATENTS
Attorney Docket No. PFI-015

#6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant: Popoff *et al.*

Art Unit: 1614

Serial No.: 09/943,075

Examiner: Unassigned

Filing Date: August 30, 2001

Title: OSTEOACTIVIN PROTEIN AND
NUCLEIC ACIDS ENCODING THE
SAME, COMPOSITIONS AND
METHODS OF STIMULATING BONE
DIFFERENTIATION

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Assistant Commissioner for Patents
Washington, DC 20231

CERTIFICATION UNDER 37 C.F.R. § 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to BOX MISSING PARTS, Assistant Commissioner for Patents, Washington, DC 20231 on the date shown below.

January 7, 2002

Date of signature and
of mail deposit

Teresa Carvalho

Teresa Carvalho

AMENDMENT AND RESPONSE

Sir:

Please amend the above-referenced patent application as follows:

Amendments to the Specification:

Please amend the specification as described below. As required by 37 C.F.R. § 1.121(b)(1), the amended paragraphs are rewritten with all changes included. In addition, also attached, is a marked-up version of the amended paragraphs, marked to show all of the changes relative to the previous version.

On page 18, please delete the paragraph at lines 2-8 and replace it with the following paragraph:

Figure 1A is a schematic representation of the nucleotide sequence (SEQ ID NO: 1) and corresponding amino acid sequence of rat osteoactivin and its predicted amino acid sequence (SEQ ID NO: 2) (beginning with the methionine at nucleotide 115) shown in single letter format below the DNA sequence. Solid black lines between nucleotides 217 to 267 and 1768 to 1818 underline the peptides to which the antisera were raised for immunohistochemical localization and Western blot analysis of osteoactivin expression.

On page 18, please delete the paragraphs at lines 13-17 and replace them with the following paragraphs:

Figure 2A is a schematic representation of the alignments of the open reading frame nucleotide sequences of rat osteoactivin (SEQ ID NO: 1), mouse *nmb* (SEQ ID NO: 7, and human *nmb* (SEQ ID NO: 8).

Figure 2B is a schematic representation of the alignment of the predicted amino acid sequences of rat osteoactivin (SEQ ID NO:2), mouse *nmb* (SEQ ID NO: 5) and human *nmb* (SEQ ID NO: 6).

On page 46, please delete the paragraph at lines 3-9 and replace it with the following paragraph:

In Figures 2A and 2B, the nucleotide (SEQ ID NOS: 1, 7, and 8) and predicted amino acid sequences (SEQ ID NOS: 2, 5, and 6) respectively, of rat osteoactivin and human and mouse *nmb* were compared. Figure 2A reveals that there is a 76% sequence identity in the nucleotide sequences between rat and human. The predicted protein sequence of rat osteoactivin has a proline serine-rich 14 amino acid insertion beginning at residue 333 that is not present in the

human *nmb* protein sequence, as shown in Figure 2B. On the protein level, the sequences of rat osteoactivn and human *nmb* are 69% identical.

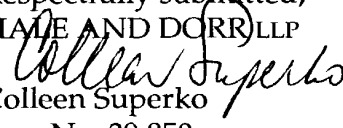
Please insert the Sequence Listing information (copy enclosed) after the last page of the specification.

REMARKS

This Amendment and Response does not introduce new subject matter as support is found in the application as filed.

No fees are believed to be due in connection with this correspondence. However, please charge any payments due or credit any overpayments to our Deposit Account No. 08-0219.

Respectfully submitted,
HALE AND DORR LLP


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**MARKED-UP VERSION OF REPLACEMENT PARAGRAPHS IN
SPECIFICATION UNDER 37 C.F.R. §1.121(b)(1)**

On Page 18, paragraph at line 2-8:

Figure 1A is a schematic representation of the nucleotide sequence (SEQ ID NO: 1) and corresponding amino acid sequence of rat osteoactivin and its predicted amino acid sequence (SEQ ID NO: 2) (beginning with the methionine at nucleotide 115) shown in single letter format below the DNA sequence. Solid black lines between nucleotides 217 to 267 and 1768 to 1818 underline the peptides to which the antisera were raised for immunohistochemical localization and Western blot analysis of osteoactivin expression.

On page 18, paragraphs at lines 13-17:

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Figure 2B is a schematic representation of the alignment of the predicted amino acid sequences of rat osteoactivin (SEQ ID NO: 2), mouse *nmb*, (SEQ ID NO: 5) and human *nmb* (SEQ ID NO: 6).

On page 46, paragraph at lines 3-8:

In Figures 2A and 2B, the nucleotide (SEQ ID NOS: 1, 7, and 8) and predicted amino acid sequences; (SEQ ID NOS: 2, 5, and 6) respectively, of rat osteoactivin and human and mouse *nmb* were compared. Figure 2A reveals that there is a 76% sequence identity in the nucleotide sequences between rat and human. The predicted protein sequence of rat osteoactivin has a proline serine-rich 14 amino acid insertion beginning at residue 333 that is not present in the human *nmb*

protein sequence, as shown in Figure 2B. On the protein level, the sequences of rat osteoactivn and human *nmb* are 69% identical.